Q&A

Cisco Catalyst 2940 Series Switches

PRODUCT OVERVIEW

Q. What is the Cisco® Catalyst® 2940 Series?

A. Cisco Catalyst 2940 Series Switches are small, standalone, managed switches with eight Fast Ethernet ports and a single integrated Fast Ethernet or Gigabit Ethernet uplink. The switches are designed to be used outside the wiring closet in the end-user workspace, and feature a durable metal shell, no fan for silent operation, easy mounting on a wall or under a desk, a security lock slot to prevent theft, and an available cable guard to secure the Ethernet cables and switch.

The Cisco Catalyst 2940 Series consists of configurations and accessories listed in Table 1.

Table 1. Cisco Catalyst 2940 Series Configurations and Accessories

Product Name	Part Number	Description
Cisco Catalyst 2940-8TF Switch	WS-C2940-8TF-S	• 8 10/100 ports and 1 combination 100-FX or 1000BASE-X Small Form-Factor Pluggable (SFP) port • Small size, no fan, durable metal shell, magnet • Intelligent services delivered to the network edge
Cisco Catalyst 2940-8TT Switch	WS-C2940-8TT-S	• 8 10/100 ports and 1 10/100/1000 port • Small size, no fan, durable metal shell, magnet • Intelligent services delivered to the network edge
Cisco Catalyst 2940 Cable Guard	CABLEGUARD-C2940=	• Helps prevent switch theft and tampering with or removal of Ethernet cables
Cisco Catalyst 2940 Rack Mount	RACKMOUNT-C2940=	• Allows the switch to be mounted in cabinets with standard 19-in. mounting

POSITIONING

Q. Where would I deploy a Cisco Catalyst 2940 Series Switch in my network?

A. Cisco Catalyst 2940 Series switches are designed for deployment in user environments beyond the wiring closet. Common deployments include office workspaces, classrooms, and other locations where it is not feasible or too expensive to pull additional copper or fiber cabling from the wiring closet to satisfy an increased number of end-user devices. Network administrators can accommodate up to eight devices, even if there is only a single copper or fiber drop to that location.

The Cisco Catalyst 2940 is an excellent replacement for small hubs or unmanaged switches because it enables network administrators to have more control over their networks, ensure network security, monitor and manage switches remotely, and improve network performance and service levels. This helps reduce the total cost of network ownership and improve user productivity.

Q. How is the Cisco Catalyst 2940 Series positioned relative to the Cisco Catalyst 2950 Series?

A. The Cisco Catalyst 2940 Series is designed for the user environment. Cisco Catalyst 2950 Series Switches are primarily used in the wiring closet or small branch office. Another difference is that the Cisco Catalyst 2940 Series has one Cisco IOS® Standard Image software while some Cisco Catalyst 2950 Series models run a Cisco IOS Standard Image software and others run a Cisco IOS Enhanced Image software.

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Q. Does the Cisco Catalyst 2940 Series replace any existing or legacy products?

A. Yes. The Cisco Catalyst 2940 Series provides an excellent replacement for the legacy Cisco 1548M, 1548U, 1538M, and 1538U switches and hubs. These products have reached end-of-sale status.

HARDWARE

Q. Why is the Cisco Catalyst 2940 Series ideal for end-user environments, outside of the wiring closet?

A. The Cisco Catalyst 2940 Series is ideal for end-user environments for the following reasons:

- A small form factor allows it to fit unobtrusively in small areas.
- Passive cooling without the use of a fan makes it completely silent, so it does not disrupt quiet environments.
- A durable, all-metal shell protects the switch from accidental or intentional physical abuse.
- A mounting kit is provided for wall-mounting, desk-mounting, or under-the-desk mounting. A specially designed magnet for mounting to metal surfaces is also provided.
- A separately purchased security cable (commonly used with laptops) can be installed in one of the security slots on each side of the switch to prevent theft.
- An optional cable guard protects the Ethernet cables from tampering or removal, providing further protection against theft.

Q. Does the Cisco Catalyst 2940 Series support stacking?

A. No. The Cisco Catalyst 2940 Series does not have a stacking interface and does not support the Cisco GigaStack® gigabit interface converter (GBIC).

Q. Do Cisco Catalyst 2940 Series Switches have redundant power supply (RPS) support?

A. No. In order to minimize the cost and size of the Cisco Catalyst 2940 Series, there is no support for power supply redundancy

Q. Can the 100-FX and 1000BASE-X Small Form-Factor Pluggables (SFPs) be used concurrently on the Cisco Catalyst 2940-8TF?

A. No. Only one uplink can be used at a time. If no SFP is inserted, the switch will use the 100-FX port for the uplink. If an SFP is inserted, the switch will use the 1000BASE-X uplink.

Q. What SFPs are supported on the Cisco Catalyst 2940 Series?

A. Cisco Catalyst 2940 Series Switches support Cisco 1000BASE-LX/LH, 1000BASE-SX 1000BASE-T, 1000BASE-ZX, and CWDM SFPs.

Q. Do Cisco Catalyst 2940 Series Switches interoperate with SFPs from other vendors?

A. No. Like other Cisco switches and routers, Cisco Catalyst 2940 Series Switches do not interoperate with other vendors' SFPs.

Q. What type of fiber connectors are supported on the Cisco Catalyst 2940-8TF Switch?

A. The Cisco Catalyst 2940-8TF supports an MT-RJ connector for the 100BASE-FX port, and an LC connector for the SFP port. For customers that use SC or ST connectors, MT-RJ-to-SC and MT-RJ-to-ST fiber patch cables and LC-to-SC fiber patch cables are available from Cisco.

SECURITY

Q. How can I manage the usernames and passwords for switches?

A. Rather than configuring the usernames and passwords of network administrators on every switch, the Cisco Catalyst 2940 Series supports both RADIUS and TACACS+ authentication servers. Every time network administrators attempt to configure or monitor a switch, they will be prompted to enter their username and password. In large networks, it is more efficient to store the username and password information on a centralized RADIUS or TACACS+ server, instead of on every switch. In addition, different network

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administrators or technicians can be provided different levels of authorization, ranging from full configuration capabilities to just read-only capability.

Q. How can I prevent unauthorized users from accessing my network?

A. The Cisco Catalyst 2940 Series supports the IEEE 802.1x standard that works in conjunction with a RADIUS server to authenticate users as they access a network. This provides port-level security and prevents unauthorized users or intruders from accessing the network. Cisco's port security helps ensure the appropriate PC is on the network by limiting access to the port based on the MAC address.

Q. How can I prevent users from snooping on their neighbors' traffic?

A. The Cisco Private VLAN (PVLAN) Edge feature isolates access ports so that users cannot snoop on traffic going to other users on the same switch. Any traffic sent on an isolated PVLAN Edge port is directed upstream in the network where it can be filtered using a router or firewall or monitored with an intrusion detection system before being sent to another PVLAN Edge isolated port.

QUALITY OF SERVICE

Q. Does the Cisco Catalyst 2940 Series support the appropriate quality of service (QoS) mechanisms to enable voice, video, and data applications?

A. Yes, for basic voice, video, and data applications. The switches support four queues per port, allowing network administrators to choose from four different service levels for each type of network traffic. Using the 802.1p class of service (CoS) value in the packet header, Cisco Catalyst 2940 Series Switches can place different types of traffic into different prioritized queues. Queue priorities can be configured using Strict Priority or Weighted Round Robin scheduling. When running voice over the network, it is better to use Strict Priority scheduling; if there is a mix of video and data applications, Weighted Round Robin scheduling is generally preferred.

Availability

Q. Does the Cisco Catalyst 2940 Series support Internet Group Management Protocol (IGMP) Snooping?

A. Yes. IGMP Snooping makes more efficient use of network bandwidth when using multicast applications. In addition, the Cisco Catalyst 2940 Series supports Immediate Leave processing, which prunes out unnecessary multicast traffic more quickly than standard multicast leave processing.

Q. Does the Cisco Catalyst 2940 Series support broadcast storm control?

A. Yes. The Cisco Catalyst 2940 supports not only broadcast storm control, but also unicast and multicast storm control. This feature mitigates the impact of faulty network interface cards (NICs) that are sending out massive amounts of unnecessary traffic by blocking the traffic above a certain threshold, shutting down the port, or alerting a network administrator via a Simple Network Management Protocol (SNMP) trap.

Q. Does the Cisco Catalyst 2940 Series support PortFast?

A. Yes. The Cisco Catalyst 2940 supports PortFast, which allows PCs to connect more quickly to the network when first connected to the switch, thereby helping to improve user productivity and reduce support calls.

Network Management

Q. Does the Cisco Catalyst 2940 Series support Cisco Express Setup?

A. Yes. By pressing the Mode button for two seconds during switch bootup, the switch will enter Express Setup mode. This allows the user to connect to the switch using Ethernet, launch a Web browser, and complete a single Webpage that provides a basic configuration for the switch so that it is remotely manageable. After completing Express Setup, the switch can be connected to the network. This tool is designed for networking novices.

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Note: The switch should not be connected to the network when in Express Setup mode because a Dynamic Host Control Protocol (DHCP) server is activated in the switch; this can cause IP address conflicts.

Q. After I have used Express Setup, can I disable this feature to prevent others from using the Mode button to enter Express Setup mode?

A. Yes. There is a command to disable Express Setup.

Q. Does Cisco Network Assistant support the Cisco Catalyst 2940 Series?

A. Yes. Cisco Catalyst 2940 Series Switches can be managed using Cisco Network Assistant. Cisco Network Assistant is a PC-based network management application that offers centralized management and configuration of Cisco switches and other Cisco devices, such as routers and wireless access points. With Cisco Network Assistant, in addition to configuring multiple switches at a time, network administrators can configure Cisco wireless access points and invoke the device manager on Cisco routers and access points. Software upgrades on Cisco switches, routers, and wireless access points are as easy as a drag-and-drop process. Cisco Network Assistant is available at no cost and can be downloaded from http://www.cisco.com/go/cna.

SOFTWARE UPDATES

Q. For which fixed-configuration and stackable Cisco Catalyst series can I obtain a "no additional cost" Cisco IOS software update?

A. Cisco offers ongoing Cisco IOS Software updates for certain fixed-configuration and stackable Cisco Catalyst switches at no additional cost. For the life of the product, updates within the Cisco IOS Software package purchased (LAN Base, IP Base, IP Services, etc.) will be made available to customers. The Cisco Catalyst series that apply are as follows:

- Cisco Catalyst Express 500 Series Switches
- Cisco Catalyst 2900 XL Series Switches
- Cisco Catalyst 2940 Series Switches
- Cisco Catalyst 2948G-GE-TX Series Switch
- Cisco Catalyst 2950 Series Switches
- Cisco Catalyst 2950 LRE Series Switches
- Cisco Catalyst 2955 Series Switches
- Cisco Catalyst 2960 Series Switches
- Cisco Catalyst 2970 Series Switches
- Cisco Catalyst 3500 XL Series Switches
- Cisco Catalyst 3550 Series Switches
- Cisco Catalyst 3560 Series Switches
- Cisco Catalyst 3750 Series Switches
- Cisco ME 2400 Series Switches
- Cisco ME 3400 Series Switches

Note **upgrades** are different from **updates**. For example, an upgrade from the IP Base Package to IP Services Package provides significant new function; therefore, this upgrade requires the purchase of a software license upgrade. Updates are incremental software features and bug fixes that are released within a licensed Cisco IOS Software package.

This statement supersedes any previous warranty or software statement and is subject to change without notice.

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Q. How do I get a "no additional cost" Cisco IOS Software update for my fixed-configuration or stackable Cisco Catalyst switch?

A. Customers that own a software license for any of the eligible fixed-configuration or stackable Cisco Catalyst series may obtain a software update at Cisco.com.

Visit http://tools.cisco.com/support/downloads/pub/MDFTree.x?butype=switches, or from http://www.cisco.com, click on "Downloads" and select "Switch Software". Downloading software requires a Cisco.com username and password. If you do not have a Cisco.com username, you can obtain one by clicking on "Register" at the top of any Cisco.com Webpage (http://tools.cisco.com/RPF/register/register.do).

WARRANTY AND SERVICE

Q. What is the warranty for the Cisco Catalyst 2940 Series?

A. Cisco Catalyst 2940 Series Switches come with the Cisco Limited Lifetime Hardware Warranty.

Limited Lifetime Warranty

The hardware warranty available on Cisco Catalyst 3750, 3560, 3550, 3500 XL, 2970, 2960, 2950, 2940, 2900 XL, and Express 500 Series switches is the Limited Lifetime Hardware Warranty. This warranty automatically comes with the purchase of eligible Cisco Catalyst products, free of charge. It offers free advanced replacement of products within 10 business days. For more information about the Limited Lifetime Hardware Warranty, visit http://www.cisco.com/univercd/cc/td/doc/es_inpck/lh2ben__.htm.

Q. What types of service and support are available for Cisco Catalyst 2940 Series Switches?

A. A full complement of lifecycle services and support is available for the Cisco Catalyst 2940 Series. From implementation to operation and optimization, Cisco Technical Support Services and Advanced Services can be delivered either directly or through one of Cisco's partners.

Technical Support Services

Technical support service is available through Cisco SMARTnet® and SMARTnet Onsite support. The Cisco SMARTnet service augments the resources of your operations staff by providing them with access to expertise, both online and on the telephone, and numerous hardware advance replacement options. The Cisco SMARTnet Onsite service complements the hardware advance replacement feature by adding the services of a field engineer, services that can be critical for locations where internal staff are unavailable to perform part replacement activities. For more information about the Cisco SMARTnet service, visit http://www.cisco.com/en/US/products/svcs/ps3034/serv_category_home.html.

PRODUCT AND CONTACT INFORMATION

Q. Where can I find technical and product specifications and other information about Cisco Catalyst 2940 Series Switches?

A. For Cisco Catalyst 2940 Series product literature, including data sheets and product specifications, visit http://www.cisco.com/go/catalyst2940.

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